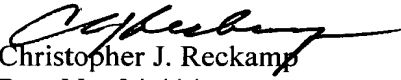


REMARKS

Applicant respectfully submits that the claims are in condition for allowance. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

February 25, 2002

Respectfully submitted,


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VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the Specification:**

On page 1, after the title, please delete the heading "Description" and substitute therefor the heading --Background of the Invention--.

On page 1, after the Background of the Invention heading, please insert before the first paragraph the subtitle:

1. Field of the Invention.

On page 1, after the paragraph under the "F1. Field of the Invention" section, please insert the following heading:

2. Description of Related Art.

On page 3, please replace the first five paragraphs beginning, "It is the object of the present invention ..." and substitute therefor the following heading and paragraphs, so that the section begins as follows:

SUMMARY OF THE INVENTION

[Starting from this prior art, it]It is the object of the pre-sent invention to provide a method and a device which support a simple and a faster formation of groups with a minimum number of necessary machine clock cycles in paper handling systems.

[This object is achieved by a method according to claim 1 and a device according to claim 7.]

The present invention [provides]is a method of transferring at least two sheets, which are arranged in a shingled mode of arrangement in a sheet transport direction, to a sheet handling machine in which the at least two sheets are moved at a first speed after the transfer, a first and a second sheet of the at least two sheets being spaced by a certain length of displacement in the sheet transport direction,[the method comprising the following steps:]

[(a) supplying]wherein the at least two sheets are supplied to the sheet handling machine at a second speed, the second [speed being higher than the first speed; and]

[(b) decelerating]wherein the second sheet is decelerated to a third speed as soon as the first sheet is decelerated to the first speed in the sheet handling machine, the third speed being lower than the second speed.

The present invention [provides]is a device for transferring at least two sheets, which are arranged in a shingled mode of arrangement in a sheet transport direction, to a sheet handling machine which comprises a transport unit which moves the at least two sheets at a first speed after the transfer, a first and a second sheet of the at least two sheets being spaced by a certain length of displacement in the sheet transport direction, the device [comprising:]having

a feed roll which feeds the at least two sheets to the sheet handling machine at a second speed, the second speed being higher than the first speed; and

a brake roll which decelerates the second sheet to a third speed as soon as the first sheet is decelerated by the trans-port unit, the third speed being lower than the second speed.

On page 5, please delete the third paragraph: [Other preferred further developments of the present invention are defined in the subclaims.], and substitute therefor the heading --BRIEF DESCRIPTION OF THE DRAWINGS--.

On page 6, after the description of Fig. 7A-7D, please insert the following heading:

--DESCRIPTION OF THE PREFERRED EMBODIMENTS--.

On page 9, please replace the current second paragraph so that the paragraph reads as follows:

The sheets 200 and 202 are supplied at a [first]second speed by means of a feed device which is not shown in Fig. 2; according to a preferred embodiment, this [first]second speed is approx. 3 m/s, but it may also be in the range of from 2 m/s to 6 m/s.

On page 9, please replace the current third paragraph with the following substitute paragraph, so that the paragraph reads as follows:

When the sheets 200, 202 reach the shingle roll 204, their supply speed is decelerated, and, for preventing the two sheets 200 and 202 from sliding over one another, the brake roll 206 is switched over from its first position shown in Fig. 2A to the position shown in Fig. 2B

at which the brake roll 206 engages the edge 202b of the second sheet 202 which is the trailing edge in the paper transport direction, and decelerates this edge so that the shingled arrangement of the two sheets 200 and 202 is maintained. The brake roll causes the second sheet 202 to be decelerated to a speed of approx. 2 m/s, but this speed may also be in the range of from 0.2 m/s to 2 m/s. The brake roll 206 is switched over as soon as the first sheet 200 has reached the shingle roll 204. According to a preferred embodiment, the first speed ([supply]transport speed) corresponds to the third speed (deceleration speed). This situation is preferred, since an ideal behaviour during the transfer operation will be obtained in this case. The shingle length of the transferred sheets corresponds, in this case, to the shingle length of the sheets applied to the de-vice.

On page 24, please delete the last paragraph of the Specification.

[While the above description shows preferred embodiments of the invention, the invention is not limited thereto since one may make modifications, and other embodiments of this invention will occur to those skilled in the art.]

In the Claims:

Please amend Claims 1-3 and 7-15 as follows:

1. (Once Amended) A method of transferring at least two sheets[(200, 202)], which are arranged in a shingled mode of arrangement in a sheet transport direction[(P)], to a sheet handling machine[(600, 602)] in which the at least two sheets are moved at a first speed after the transfer, a first and a second sheet of the at least two sheets being spaced by a certain length of displacement [(X)]in the sheet transport direction[(P)], the method comprising the following steps:

(a) supplying the at least two sheets [(200, 202)]to the sheet handling machine at a second speed, the second speed being higher than the first speed; and

(b) decelerating the second sheet [(202)]to a third speed as soon as the first sheet [(200)]is decelerated to the first speed in the sheet handling machine, the third speed being lower than the second speed.

2. (Once Amended) A method according to claim 1, wherein an edge of the first sheet [(200)]which is the leading edge [(200a)]in the sheet transport direction [(P)]and an

edge of the second sheet [(202)] which is the leading edge [(202a)] in the sheet transport direction [(P)] are displaced relative to one another by the length of displacement [(X)], the first sheet being decelerated at the front edge thereof and the second sheet [(202)] being decelerated at the edge constituting the rear edge [(202b)] in the sheet transport direction [(P)].

3. (Once Amended) A method according to one of the claims 1 to 2, the method comprising the following steps:

(c) advancing the at least two sheets [(200, 202)] in the sheet handling machine by a distance which is determined by the sheet format and the length of displacement; and

(d) repeating steps (a) to (c) for an additional pair of sheets [(210, 212)] arranged in a shingled mode of arrangement in the sheet transport direction [(P)].

7. (Once Amended) A device for transferring at least two sheets, which are arranged in a shingled mode of arrangement in a sheet transport direction [(P)], to a sheet handling machine [(600, 602)] which comprises a first transport unit [(304)] which moves the at least two sheets at a first speed after the transfer, a first and a second sheet of the at least two sheets being spaced by a certain length of displacement [(X)] in the sheet transport direction [(P)], the device comprising:

a feed roll [(308a, 308b)] which feeds the at least two sheets to the sheet handling machine at a second speed, the second speed being higher than the first speed; and

a brake roll [(322a, 322b)] which decelerates the second sheet to a third speed as soon as the first sheet is decelerated by the transport unit [(304)], the third speed being lower than the second speed.

8. (Once Amended) A device according to claim 7, wherein the transport unit [(304)] comprises a first shingle roll [(334a)] which engages the edge of the first sheet constituting the leading edge in the sheet transport direction [(P)], and wherein, as soon as the shingle roll [(334a)] has engaged the first sheet, the brake roll [(322a, 322b)] engages the edge of the second sheet constituting the trailing edge in the sheet transport direction.

9. (Once Amended) A device according to claim 7 or 8, wherein the transport unit [(304)] comprises a substantially continuously driven conveying belt [(328)] and a

plurality of shingle rolls [(334a – 334d)]which are pretensioned towards the conveying belt [(328)]and which are spaced apart in the sheet trans-port direction [(P)]by a distance determined by the sheet format and the sheet displacement[(X)].

10. (Once Amended) A device according to one of the claims 7 to 9 comprising a trap[(314)], which is arranged between the feed roll [(308a, 308b)]and the first shingle roll[(334a)], the trap [(314)]causing descending shingles of sheets in a first position and ascending shingles of sheets in a second position.

11. (Once Amended) A device according to claim 10, wherein the brake roll [(322a)]is associated with a first sheet path [(320a)]along which the at least two sheets travel when the trap [(314)]is at the first position, an additional brake roll [(322b)]being provided, which is associated with a second sheet path [(320b)]along which the at least two sheets travel when the trap [(314)]is at the second position.

12. (Once Amended) A device according to one of the claims 7 to 11, wherein the sheet handling machine comprises:

a second transport unit[(502)], which is arranged after the first transport unit [(304)]in the sheet transport direction[(P)], the first transport unit [(304)]collecting the sheets continuously and transferring them to the second transport unit[(502)], when a predetermined number of sheets is arranged in the first transport unit[(304)], the sheets in the second transport unit [(502)]being arranged in a shingled mode of arrangement in a sheet transport direction [(P)]in such a way that the leading edges of the sheets in the sheet transport direction are spaced apart by a certain length of displacement, the second transport unit [(502)]moving the sheets in a clocked mode in such a way that the sheets are displaced by a predetermined distance in the sheet transport direction[(P)], the distance depending on the number of sheets to be distributed and on the sheet displacement; and

a distributing unit [(504)]which, when the sheets move in the transport unit[(502)], discharges from the sheet handling machine the respective leading sheet in the sheet transport direction.

13. (Once Amended) A device according to one of the claims 7 to 11, wherein the paper handling machine comprises:

a second transport unit [(502)]which is arranged such that it extends parallel to the first transport unit[(304)],

a deflection means [(604)]which is arranged in front of the first and second transport units [(304,502)]when seen in the sheet transport direction [(P)]and which conducts sheets to the first transport unit [(304)]when occupying a first position and sheets to the second transport unit [(402)]when occupying a second position, the deflection means [(604)]switching over from the first to the second position, when a predetermined number of sheets has been received in the respective transport unit, and

a distributing unit [(504)]arranged after the first and second transport unit [(304, 502)]when seen in the sheet transport direction,

wherein the transport unit having no sheets supplied thereto moves the sheets in a clocked mode in such a way that the sheets are displaced by a predetermined distance in the sheet transport direction, the distance depending on the number of sheets to be distributed and on the sheet displacement;

wherein, when the sheets are being moved, the distributing unit [(504)]discharges from the paper handling machine the respective leading sheet in the sheet transport direction[(P)].

14. (Once Amended) A device according to claim 12 or 13, wherein the second transport unit [(502)]comprises a conveying belt [(514)]and a plurality of transport rolls [(520a – 520d)]which are pretensioned towards the conveying belt [(514)]and which are spaced apart in the sheet transport direction [(P)]by a distance determined by the sheet displacement [(X)]and by the sheet format.

15. (Once Amended) A device according to one of the claims 12 to 14, wherein the distributing unit [(504)]includes a counter [(534a, 534b, 536, 538)]which detects the number of sheets distributed.

In the Abstract

Please amend the Abstract to read as follows:

A method and a device for transferring at least two sheets[(200, 202)], which are arranged in a shingled mode of arrangement in a sheet transport direction[(P)], to a sheet

handling machine in which the at least two sheets [(200, 202)]are moved at a first speed after the transfer, a first and a second sheet being spaced by a certain length of displacement [(X)]in the sheet transport direction[(P)]. The two sheets [(200, 202)]are first supplied to the sheet handling machine at a second speed which is higher than the first speed. As soon as the first sheet [(200)]is decelerated to the first speed in the sheet handling machine, the second sheet [(202)]is decelerated to a third speed which is lower than the second speed.